

A Positive Coaching Alliance Intervention on a College Campus with Club Sport Athletes

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Abstract

The purpose of this study was to examine whether the introduction of Positive Coaching Alliance principles to college sport club leaders (i.e., captains, officers, & coaches) across a season leads athletes to perceive the climate on their teams as more caring and task-involving and less ego-involving than in the previous season. Participants were 192 sport club athletes from a major Division I college, comprising of a range of classes (i.e., Freshmen, Sophomore, etc.) and ethnicities. Participants were measured twice (comparing two athletic seasons, one before the intervention and one afterwards) to determine athletes' perceptions of their teams' motivational climate, their individual goal orientation, and outcome measures of enjoyment, effort, commitment and adherence to PCA principles. Results indicate that athletes perceived a significantly higher caring task-involving climate (CTIC) in Year 2 (post intervention) in comparison to Year 1 (preintervention). Additionally, results indicated that athletes' perceptions of a CTIC in addition to their task orientation were linked to athletes reporting greater enjoyment, effort, and commitment. Lastly, athletes who perceived their team motivational climate as a CTIC were more likely to indicate that they and their teammates were Triple Impact Competitors and also respected the rules, officials, opponents, teammates and themselves (R.O.O.T.S). Implications that can be drawn from this study include the importance of setting a CTIC within a club sport setting, and how PCA workshops provide a means to do so.

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A Positive Coaching Alliance Intervention on a College Campus with Club Sport Athletes

Positive Coaching Alliance (PCA) is an organization that was established to transform youth sport, by training coaches how to achieve two goals: 1) help athletes win and 2) simultaneously help them become better people. PCA refers to coaches who embody this approach as Double-Goal Coaches who help young people become “Better Athletes, Better People” (PCA’s slogan). Over the last twenty years, PCA has been devoted to developing curriculum and workshops that can be used for these purposes. Their approach has been to identify current youth sport coaches and provide them with tools and resources to create a positive youth sport culture. As PCA recently celebrated the 20-year anniversary of the organization, their administration took the opportunity to step back and consider how PCA could have an even greater impact over the next 20 years. One of the ideas they decided to pursue was to consider how college students, the future youth sport coaches and parents, might benefit from exposure to positive coaching concepts in early adulthood. As a result, PCA worked closely with a university sport psychology program to develop and implement an alternative model that could be used with students involved in sport on college campuses to further enhance the youth sport culture long-term. The purpose of this study is to describe the first year of a PCA intervention to teach PCA concepts to students involved in the sport club program on their university campus. Specifically, the goal was to expose college sport club leaders to PCA training that would enhance both their future involvement in youth sport, as well as their current sport experience. Until recently, the organization has solely focused their efforts on improving the culture directly within youth sport (i.e., with current youth sport coaches and parents). This new innovative approach is creative in that it could, if expanded, impact a large group of individuals who will likely be involved in youth sport in the future.

PCA was founded in 1998 by Jim Thompson after seeing a “win-at-all costs” mentality being established within the culture of the youth sport program where he was coaching his son’s little league baseball team. The initial mission was to “transform youth sport so youth sport can transform youth.” As such, Thompson began a grass roots effort to establish PCA as a significant force to train coaches to “create a culture where kids love to play the game.” Since 1998, PCA has conducted over 10,000 workshops, reached more than 8 million youth, and has established 17 chapters in major cities across the country. PCA has three strengths that are particularly noteworthy. First, they have comprised an impressive National Advisory Board consisting of well recognized athletes and coaches across a wide variety of sports and sport levels, as well as established academic professionals who share a commitment to helping all youth have a positive sport experience. Steve Kerr, Julie Foudy, Bruce Bochi, Billie Jean King, and Phil Jackson, who was the first high profile coach to serve as a spokesperson for the organization. The second important strength of PCA is their Development Zone, a resource center that has hundreds of videos, articles, and podcasts that reinforce the curriculum developed by PCA. For example, PCA videos can be viewed that highlight Brad Stevens providing insight into how coaches can help athletes unlock their potential or Billie Jean King speaking to the need to help young athletes focus on their effort and improvement as a gauge of success.

The third strength of PCA is that the organization and its’ principles are rooted in solid sport psychology research and theory. In particular, PCA has drawn heavily from research employing Achievement Goal Perspective Theory (AGPT) in developing their curriculum. According to AGPT, the key to sustaining motivation over time lies in athletes being task-involved, or focused on effort and improvement as primary indicators of success. Ego-involvement occurs when athletes are primarily using normative information to evaluate their success. Nicholls maintained

that because individuals have control over their effort and improvement, task-involvement will lead to a richer and more fulfilling sport experience. The degree to which athletes are task- or ego-involved at any point in time is a function of their level of cognitive development, goal orientation, and perception of the motivational climate operating on their team.

Goal orientations represent individuals' personal definition of success. When athletes display a high task orientation, they define success based on their personal effort and improvement. They feel successful when they have exerted high effort and progressed in mastering skills, regardless of their performance in comparison with others. In contrast, when athletes display a high ego orientation, they feel successful only when they outperform and/or feel superior to others. Athletes are to some degree both task and ego oriented, so athletes can be high and/or low in both task and ego orientation.

The third component of AGPT is the perception of the motivational climate operating on teams. In a similar manner to goal orientation, motivational climate can be viewed as task- or ego-involving. In a task-involving climate, the coach is valuing the following features: high effort, mastery of skills, and individual improvement; fostering cooperation among teammates; emphasizing that mistakes are a part of the learning process; and helping each athlete see the important role they play on the team. An additional feature of an optimal climate is the inclusion of caring. Athletes perceive a caring climate when they perceive that all feel welcomed, safe, supported, valued and respected. In addition to creating a TIC, a growing body of research shows that supplementing a caring climate (CC) concertedly with a TIC not only impacts motivation in achievement-based settings, but can also benefit overall well-being of participants (Fry et al., 2012; Reinboth & Duda, 2006). A CC is defined as one in which individuals perceive it to be interpersonally inviting, safe, supportive, and able to provide the experience of being valued and

181 respected (Newton et al., 2007). The perception of a caring task-involving climate (CTIC) has
182 been well documented in providing numerous psychological benefits, such as increased
183 enjoyment, interest, effort, competence, commitment, and feeling valued as a member of their
184 fitness club (Fry & Hogue, in press; Fry & Moore, in press; Huddleston et al., 2012).

185 There are a multitude of outcome variables that are important to examine when aiming to
186 assess the culture of any team or organization. Effort is an important concept in sport, as well as
187 a key characteristic that is encouraged within a CTIC and a demarcation of task orientation.
188 Athletes who place value on putting forth high effort when playing their sport will be more
189 resilient through the ups and downs of their playing experience, as they define success based on
190 their own improvement and not the end result of their matches or games. In addition,
191 commitment is an important variable relating to sport participation. Within this population of
192 club sport participants especially, where retention of athletes throughout the season is of utmost
193 importance and can often pose a challenge, commitment to the team is a crucially important
194 variable. In previous studies, commitment has been shown to be positively correlated with
195 perceptions of a CTIC (Hall, Newland, Newton, Podlog, & Baucom, 2017; Chamberlin, Fry, &
196 Iwasaki, 2017). It would follow that those athletes who perceive a highly caring and task
197 involving climate would feel respected and valued, and those feelings would impact individuals
198 level of commitment to their team and sport. Enjoyment is another variable that has been found
199 to be positively correlated with perceptions of a caring and task involving climate (Hogue, Fry,
200 & Fry, 2017; Braithwaite, Spray, & Warburton, 2011). It would follow, then, that establishing a
201 more CTIC would positively influence these variables within a team setting.

202 The purpose of this study was to examine whether the introduction of Positive Coaching
203 Alliance principles to college sport club leaders (i.e., captains, officers, & coaches) across a

season leads athletes to perceive the climate on their teams as more caring and task-involving and less ego-involving than in the previous season. A secondary purpose of this study was to examine the relationship between club athletes' perceptions of the motivational climate on their club teams and their personal goal orientations to their self-reported levels of commitment, enjoyment, effort, and their adherence to PCA principles. It was hypothesized that the athletes' perceptions of a caring and task-involving climate would be significantly higher in the season during which the teams were introduced to PCA principles in comparison to the previous sport season. In addition, it was hypothesized that athletes' task orientation and perceptions of a caring and task-involving climate would be positively associated with higher levels of commitment, enjoyment, and effort, and greater adherence to PCA principles. Lastly, we hypothesized that club teams' PCA principle adherence scores would be significantly higher from pre-test to post-test.

Method

Participants

College sport club athletes ($N^1 = 146$, $N^2 = 192$; $M_{age}^1 = 21.14$, $M_{age}^2 = 20.55$; $SD^1 = 2.33$, $SD^2 = 2.57$) across 20 different sport club teams from a local university recreation department volunteered to complete a survey at two different points in their season. The athletes were Caucasian (81%), Asian (8%), Hispanic or Latino (3%), or represented a very small percentage of this samples race/ethnicity (< 3%), or were bi-racial. Athletes represented all of the university's academic classifications, including Freshmen (26%), Sophomores (24%), Juniors (19%), Seniors (21%), or graduate students (9%). The average length of athletes participating in their sport across their lives was 7 years, and the sport club athlete had participated on their club

team for 2 years. Permission to conduct the study was obtained from the researcher's Institutional Review Board, the Director of the University Recreation Department, and the athletes. All athletes were 18 years or older and provided their written consent to participate in the study.

Materials and Procedure

Surveys were administered to the athletes twice across the academic year, once early in the fall academic semester, and again towards the end of their spring semester. Both data collection points coincided within one season, with the first serving as an assessment of the *previous season* (i.e., competition that took place during the previous academic year), and the latter serving as an assessment of the season that had just concluded across the current academic year. Participation in the study was voluntary, and athletes were informed that their responses would be anonymous and confidential.

Athletes completed a survey at the beginning of the academic year, and were asked to reflect on the measures of interest for their previous club sport season. The items for the previous season survey were adjusted to read, "Last season..." and included past tense language. The items for the post season survey were adjusted to read, "This season..."

Caring Climate. The 13-item Caring Climate Scale (Newton et al., 2007) was used to assess athletes' perceptions of the extent that all involved with their team felt welcome, comfortable, and were treated with mutual kindness and respect. A sample item is "On this team, athletes feel welcome every day", and athletes responded to the items using a 5-point Likert scale (1 = *strongly disagree*, and 5 = *strongly agree*). Previous research has found reliable internal consistency of this scale ($\alpha = .91$, Fry & Gano-Overway, 2010; $\alpha = .96$, Gould et al., 2012; $\alpha = .92$, Newton et al., 2007).

Perceived Motivational Climate. The 21-item Perceived Motivational Climate in Sport Questionnaire (PMCSQ; Seifriz et al., 1992) was used to measure participants' perceptions of the motivational climate on their club team. The questionnaire included a task-involving (TI; 9 items) and ego-involving (EI; 12 items) scale, respectively. The stem for the items is "On this team...", and a sample item for each scale is, "... the coaches want athletes to try new skills (TI)" and "... athletes are punished for mistakes (EI)." Athletes responded to the items using a 5-point Likert scale (1 = *strongly disagree*, and 5 = *strongly agree*). Previous research has found the PMCSQ to have factorial reliability and internal reliability ($\alpha^{\text{TI}} = .80$, $\alpha^{\text{EI}} = .84$, Seifriz et al., 1992; $\alpha^{\text{TI}} = .82$, $\alpha^{\text{EI}} = .80$, Walling, Duda, & Chi, 1993).

Sport Commitment. The 6-item commitment subscale from the Sport Commitment Model (Scanlan et al., 1993) was used to measure the participants' level of commitment to their sport club. A sample item from this scale is, "How hard would it have been for you to quit the team?" A 5-point Likert scale was used, with possible responses ranging from 1, indicating "not at all" or "nothing at all", to 5, indicating the highest levels of the measured attribute (e.g., *dedication*, *pride*, *determination*). Previous research has found the measure to be internally reliable ($\alpha = .82$, Weiss, Kimmel, & Smith, 2001).

Goal Orientation. The 13-item Task and Ego Orientation in Sport Questionnaire (TEOSQ) (Duda, 1989) was used to measure participants' personal goal orientation. The stem, "I feel most successful when..." was followed by items intended to assess the participants' ego or task orientation. A sample item for each scale is, "... I could do better than other people (*ego*)" and, "I learned a new skill by trying hard (*task*)." A 5-point Likert response scale was used (1 = *strongly disagree*, and 5 = *strongly agree*), ($\alpha^{\text{Task}} = .82$, $\alpha^{\text{Ego}} = .89$; Duda, 1989; $\alpha^{\text{Task}} = .72$, $\alpha^{\text{Ego}} = .84$, Seifriz, Duda, & Chi, 1992).

Effort. The 4-item subscale from the Intrinsic Motivation Inventory (IMI) (McCauley, Duncan, & Tammen, 1989) was used to measure participants' level of effort they put into their sport when playing on their club team. A sample item from this subscale is, "I try very hard when playing my sport." A 5-point Likert scale was used (1 = *strongly disagree*, and 5 = *strongly agree*). Previous studies have demonstrated high internal consistency ($\alpha = .84$; McCauley, Duncan, & Tammen, 1989).

Enjoyment. The 5-item Sport-Satisfaction/Enjoyment subscale (Duda & Nicholls', 1992) was used to measure participants' level of enjoyment they feel when participating in their sport on their college club team. A sample item from this subscale is, "I usually enjoy playing on this team." A 5-point Likert scale was used (1 = *strongly disagree*, and 5 = *strongly agree*). Previous studies have demonstrated high internal consistency ($\alpha = .94$; Duda & Nicholls, 1992).

Adherence to PCA Principles. For the purposes of this study, a 15-item survey (Adherence to PCA Principles; APCAP, Reid & Fry, 2018) was created to measure the extent to which athletes identified individually and as a team with PCA principles. The survey items drew from PCA curriculum, and measured two PCA principles: being a Triple-Impact Competitor (TIC) and Honoring the ROOTS of the game. Athletes responded to each of the items using a 5-point scale (1 = *strongly disagree* and 5 = *strongly agree*). The items were grouped into the following four scales:

Triple Impact Competitor – Individual Athlete. Three items assessed athletes' perceptions of the extent to which they were TIC's this season. A sample item is, "I feel as if I have made my teammates better."

Triple Impact Competitor – Team. Three items assessed athletes' perceptions of the extent to which the team overall displayed TIC behavior. A sample item is, "As a team, we made our teammates better."

Honoring the ROOTS – Individual Athlete. Five items assessed athletes' perceptions of the extent to which they displayed respect for the ROOTS of the game. A sample item is, "I have shown respect for the rules of the game."

Honoring the ROOTS – Team. Four items assessed athletes' perceptions of the extent to which they felt their team displayed respect for the ROOTS of the game. A sample item is, "Our team has shown respect for the rules of the game."

Maximizing Potential. For the purposes of this study, two additional items were created and included to assess athletes' perceptions of the extent that they personally and as a team maximized their potential. A 5-point Likert scale was used (1 = *strongly disagree*, and 5 = *strongly agree*). The two items were, "I feel our team really maximized our potential," and, "I feel I really maximized my potential."

Statistical Analysis.

Means, standard deviations, and Cronbach reliability coefficients were calculated for all of the scales (see Table 1). Pearson correlation coefficients were calculated for all the scales (see Table 2). Six canonical correlation analyses were conducted to examine the relationship between the motivational climate (caring, task, and ego) and different combinations of outcome variables.

Results

Comparison of Year 1 and Year 2 Results

The statistics package used for analysis was IBM SPSS v25. Mean scores, standard deviations, and Cronbach's reliability coefficients were calculated for each scale and are presented in Table 1. All reliability coefficients were acceptable (Cronbach's $\alpha \geq .70$), with the exception of the four-item effort subscale. This scale included a reverse-coded item ("I do not try very hard when playing my sport.") that, when removed, improved the reliability coefficient from $\alpha = .54$ to $\alpha = .73$. Therefore, this item was excluded from all further analyses.

Across Year 1 and Year 2, mean scores indicated that athletes perceived a high to moderately high CTIC as well as a moderately low EIC. In addition, athletes indicated moderately high levels of task involvement, and moderately low levels of ego involvement. Further, athletes reported high to moderately high levels of enjoyment, commitment and effort, while also displaying high levels of adherence to PCA principles. Athletes also expressed moderate agreement with statements related to themselves individually and their teams maximizing their potential across the season.

A series of three MANOVAs were conducted in order to examine differences in athletes' responses across Year 1 and Year 2 with regard to a) the motivational climate, b) enjoyment, commitment, and effort, and c) adherence to PCA principles. The first MANOVA revealed a significant effect for climate (Wilks' $\lambda = .92$, $F(3, 333) = 10.00$, $p < .001$, partial $\eta^2 = .08$) with athletes reporting higher perceptions of both a caring ($F(1, 335) = 23.78$; $p < .005$; partial $\eta^2 = .07$) and a task-involving climate ($F(1, 335) = 10.83$; $p < .005$; partial $\eta^2 = .03$) in Year 2 than in Year 1. No significant difference emerged for athletes' perceptions of an ego-involving climate ($F(1, 335) = 1.24$; $p = .27$) across Year 1 and Year 2.

The second MANOVA examining athletes' enjoyment, commitment, and effort was also significant (Wilks' $\lambda = .97$, $F(3, 328) = 3.44$, $p < .05$, partial $\eta^2 = .03$). Only enjoyment was significantly different, with athletes reporting higher scores in Year 2 than in Year 1 ($F(1, 330) = 6.89$; $p < .05$; partial $\eta^2 = .02$).

The third MANOVA examining athletes' adherence to PCA principles was significant (Wilks' $\lambda = .97$, $F(4, 333) = 3.04$, $p < .001$, partial $\eta^2 = .04$). Athletes' perceptions that they ($F(1, 336) = 5.78$; $p < .05$; partial $\eta^2 = .02$) and their teammates ($F(1, 336) = 8.95$; $p < .05$; partial $\eta^2 = .03$) respected the ROOTS of the game, and their teammates were TIC's ($F(1, 336) = 8.32$; $p < .05$; partial $\eta^2 = .02$) were significantly higher in Year 2 than in Year 1. Individuals' perceptions of their individual ability to be TIC's did not change significantly across the two years.

Finally, three ANOVAs were conducted to examine potential differences in the athletes' a) task orientation, b) ego orientation, and c) views that their teams maximized their potential. The first two ANOVAs revealed significant differences from Year 1 to Year 2 for athletes' task ($F(1, 335) = 10.38$; $p < .001$) and ego ($F(1, 335) = 7.30$; $p < .05$) orientation, respectively. Between Year 1 and Year 2, athletes' task orientation increased, and their ego orientation decreased. The third ANOVA was significant ($F(1, 336) = 16.07$; $p < .001$) and revealed that athletes perceived that their teams came closer to reaching their potential in Year 2 than in Year 1.

The Pearson correlation coefficients revealed perceptions of a CTIC were significantly and positively associated with each of the outcome variables measured, with the exception of effort with caring climate in Year 1. Conversely, no significant relationships emerged between perceptions of an EIC for enjoyment, commitment and effort, except for a significant negative correlation between EIC and commitment in Year 1. Interestingly, EIC was significantly

negatively correlated with each of the PCA principles measured in Year 1, but in Year 2, EIC was significantly correlated with Individual TIC (i.e., small positive correlation).

Canonical Analyses for Year 2

Four canonical correlations were conducted to examine the relationships between a) climate scales to enjoyment, commitment, and effort; b) goal orientation to enjoyment, commitment, and effort; c) climate scales to adherence to PCA scales; and d) goal orientation to adherence to PCA scales (Individual TIC and individual ROOTS only). The results for the respective four canonical correlation analyses are presented below.

The first canonical correlation analysis examined the relationships between the motivational climate (caring, task, and ego) and the outcome variables of enjoyment, commitment, and effort, and revealed one significant function ($\Lambda = .60$, $F(9) = 11.76$; $p < .001$). The canonical correlation was .61 with 37% overlapping variance. The loadings revealed that athletes' perceptions of highly CTIC and a low EIC were associated with higher levels of enjoyment, commitment, and effort (see Figure 1).

The second canonical correlation analysis examined the relationship between athletes' goal orientations to their enjoyment, commitment, and effort, and revealed one significant function ($\Lambda = .62$, $F(6) = 16.82$; $p < .001$). The canonical correlation was .60 with 36% overlapping variance. The loadings revealed that individuals high in task and low in ego orientation reported higher enjoyment, commitment, and effort within their sport (see Figure 2).

The third canonical correlation analysis examined the relationship between motivational climate (caring, task, and ego) with adherence to PCA principles (team and individual TIC and ROOTS), and revealed one significant function ($\Lambda = .53$, $F(12) = 11.18$; $p < .001$). The canonical correlation was .65 with 43% overlapping variance. The loadings revealed that athletes'

perceptions of highly caring, task-involving climate and a low ego-involving climate were associated with higher individual and team adherence to PCA principles (see Figure 3).

The fourth canonical correlation analysis examined the relationship between individual goal orientation with adherence to PCA principles (team and individual TIC and ROOTS), and revealed one significant function ($\Lambda = .72$, $F(8, 372) = 8.19$; $p < .001$). The canonical correlation was .51 with 26% overlapping variance. The loadings revealed that individuals high in task and low in ego orientation reported higher individual adherence to PCA principles (see Figure 4).

Discussion

The purpose of this study was to examine the impact of a PCA intervention with a major college sport club program. This paper describes the first year of the project where sport club leadership (coaches, officers, captains) participated in a 1.5 hour Double-Goal Coach PCA workshop. In this workshop, the sport club leaders were introduced to PCA curriculum that reinforced how sport can help athletes develop their physical skills and also become better people in the process. PCA, over the last 20 years, has been focused on youth sport, and specifically training youth sport coaches and parents to create a positive sport culture for all involved. This initiative is PCA's first attempt to partner with a university and to expose college students to positive coaching, as they are the future youth sport parents and coaches. An additional benefit of training college students in positive coaching principles is that it may have the added value of enhancing the sport culture for these athletes within their respective sport club teams.

Results of this study are promising, as the intervention with sport club leaders resulted in athletes perceiving a significantly higher CTIC in Year 2 (post intervention) in comparison to Year 1 (preintervention). The intervention consisted of a single 1.5 hour PCA workshop, and

several brief opportunities (i.e., 15 minute time slot provided during mandatory leadership meetings) across the year for leaders to check in and be reminded of the PCA content. Lastly, in the spring semester, weekly PCA emails were sent to sport club leaders that provided reminders and examples of how to implement PCA concepts with their teams.

The preintervention data revealed that athletes perceived a highly caring and task-involving climate in Year 1, suggesting that the sport club program is successful in helping college students perceive a healthy environment within their teams where the focus is on personal development and relationship building. Even so, recreation administrators were excited to see that the intervention led to significantly greater perceptions of the CTIC in Year 2, because they are invested in creating the best program possible. Not only did the intervention for sport club coaches, captains and officers impact the perceptions of a highly caring and task-involving climate, it also resulted in significantly greater levels of enjoyment, a more favorable evaluation of their team, teammates, and coaches with regard to respecting the ROOTS of the game, and their teams' ability to foster a triple-impact competitor mentality (i.e., making yourself, your teammates, and the game better). Creating a CTIC in sport club programs may result in more college students having a beneficial college sport experience that enhances their overall college lives (Kulavic, Hultquist, & McLester, 2013).

Within the sport psychology literature, interventions with coaches are surprisingly limited, and the interventions that have occurred are primarily with young athletes. For example, Smith, Smoll, and colleagues have reported on coaching interventions within youth sport settings over the past four decades, highlighting how brief coaching interventions at the beginning of a season can lead to a host of positive results (Smith, Smoll, & Curtis, 1979; Smoll, Smith, Barnett, & Everett, 1993). These interventions are focused on assisting coaches in developing and

implementing strategies to create an optimal youth sport environment while effectively reducing cognitive and somatic anxiety (Smoll, Smith, Barnett, & Everett, 1993), and increasing players' self-esteem (Smith, Smoll, & Barnett, 1995). Further, athletes whose coaches have participated in this coach training report greater enjoyment of their sport participation and more positive social interactions with coaches and teammates (Smith, Smoll, & Curtis, 1979), have higher retention rates across sport seasons (Barnett, Smoll, & Smith, 1992), and perceive their coaches engage in more positive coaching behaviors (Smith & Smoll, 1990).

In a similar vein, Duda and colleagues (2013) developed an extensive coaching behavior intervention that spanned youth soccer programs across five European countries. Duda and colleagues surveyed over 1000 youth sport participants in order to assess the efficacy and fidelity of the "Empowering Coaching" intervention. Athletes who had coaches who completed the empowering coach training were more likely to engage in more moderate to vigorous physical activity (Fenton, Duda, & Barrett, 2016) and reported higher levels of life satisfaction and subjective health than their control group counterparts (Wold, et al., 2013). While additional findings from this large data set continue to emerge and impact the field of sport psychology, the preliminary indications from initial studies speak to the effectiveness of coaching intervention workshops in optimizing coaching behavior, the importance of intentionally creating an environment most conducive to athletes' development and well-being, and how these workshops can benefit the athletes who are implicitly exposed to the curriculum. To date, climate interventions at the college level are limited. Claunch and Fry (2016) intervened with a college football staff to assist them in creating a CTIC and reported that coaches perceived that the intervention resulted in the coaches having a more enjoyable and meaningful experience, and feeling like their relationships with athletes were deeper and more positive. While results

indicated that the coaches perceived the intervention benefited the entire coaching staff and that it trickled down to positively affect the athletes, the direct impact on the student-athletes was beyond the scope of their study. To our knowledge, the current study is the first to describe an intervention with leaders (i.e., coaches, captains, officers) of college club sport teams, and results aligned with findings from youth sport interventions that show a positive impact occurs with the introduction of brief coaching workshops.

In addition to the success of the intervention to enhance the caring and task-involving features of the climate within the sport club teams, a secondary purpose of this study was to examine sport club athletes' perceptions of the climate and their goal orientations, in relation to important motivational responses and PCA concepts. Results indicated that athletes' perceptions of a CTIC, as well as their task orientation, were linked to athletes reporting greater enjoyment, effort, and commitment. These relationships have consistently been reported in the sport psychology literature with children and adolescent athletes (Fry & Gano-Overway, 2010; Hogue, Fry, & Fry, 2017; Miller, Roberts, & Ommundsen, 2004; Newton et al., 2000; Seifriz, Duda, & Chi, 1992); however, these relationships have not previously been examined within this college sport club population, and reinforce how beneficial a CTIC is for promoting adaptive motivational responses during the college years, a key developmental period for young adults.

Athletes' perceptions of CTIC and task orientation were also associated with PCA concepts. Athletes who perceived their team motivational climate as a CTIC were more likely to indicate that they and their teammates were TIC's and also respected the ROOTS of the game. Additionally, those who identified a CTIC within their teams were also more likely to indicate that they felt their team had maximized their potential. The canonical analyses, in particular, paint a clear picture of how the CTIC features of the climate align with these key outcomes that

reflect students' development as both athletes and human beings. While the intervention was primarily aimed at exposing college students to positive coaching principles to aid them in their future adult roles as youth sport parents and coaches, the short-term impact was equally, if not more, salient. That is, the coaching intervention had a measurable and immediate effect on the sport club program, as made evident in the PCA findings. In other words, only time will tell if these students contribute to revolutionizing the youth sport culture in the years to come, but in the short term, the exposure to PCA concepts appeared to benefit the club sport program in the current season by aiding athletes in valuing their interactions with teammates and coaches, and by displaying respect for all aspects of their sport.

On many levels these motivational and PCA outcomes are important, in particular for college students, who are transitioning into adulthood, developing habits that predict their future health behaviors (e.g., physical activity participation), and demonstrating behaviors that will serve them well across multiple contexts (e.g., relationships, academic, career) (Kulavic, Hultquist, & McLester, 2013). To date, this is the first empirical, peer-reviewed study examining the effectiveness of PCA Double-Goal coaching concepts as they relate to AGPT (i.e., a validated theory of motivation within the sport psychology literature) and how they can affect athletes' sport experiences. If a brief coaching workshop can result in change of this magnitude for sport club athletes, this study opens the door for continued research to examine the longer-term impact of incorporating PCA workshops with college students.

It should be noted that the support and buy-in from the recreation administration was crucial for the completion of this project. Before the academic year began, researchers approached the administration to discuss the possibility of a partnership between the university sport psychology lab (and by extension, PCA) and their sport club program. Their enthusiasm and backing,

496 requiring all sport club team officers and captains to attend a PCA workshop before their
497 seasons, was key. The recreation administration made it apparent that they genuinely cared about
498 the experience of the 500 student-athletes who participate on university sport clubs, and
499 understood the importance of athletes having these experiences to positively supplement their
500 academic involvement, while also supporting retention rates within the sport clubs moving
501 forward. Recent studies have shown that participation in organized sports steadily declines after
502 the age of 14, and continues declining into adulthood (Eime, Harvey, Charity, & Payne, 2016).
503 Sport clubs can act as a buffer against these declining participation numbers, providing an outlet
504 for athletes to continue to be passionate and involved with their sport. The number of returning
505 athletes is a key metric for university recreation departments nationwide, as high retention rates
506 not only reflect effective and worthwhile extracurricular activities, but also ensure students are
507 continuing their education. Results indicate that the recreation administration was already doing
508 an effective job at supporting the creation of CTIC's across sport programs, as evidenced by the
509 high scores of both caring and task-involving climates in Year 1. However, the workshop and
510 weekly emails may have provided the means for the team coaches and leaders to bolster a
511 positive culture within their teams, making a difference for a wider number of student athletes.
512 Moreover, the intervention was inexpensive and relatively easy to implement, which is important
513 on university campuses where budgets are tight and often diminishing. Cost effective strategies
514 to enhance programs within university campus recreation departments would likely be met with
515 interest from administrators.

516 From a research perspective, sport club programs are currently popular and growing on
517 college campuses, and as a result, sport club participants make up an interesting and unique
518 sample of athletes. Further, many teams are organized, maintained and even coached by student

athletes who are also competing themselves as members of the team. In group and individual discussions with the athletes, a common theme that emerged was the “awkwardness” stemming from managing, coaching and disagreeing with their fellow coaches, teammates, and often times, their friends. Where in their past these disagreements could be moderated by an older or more experienced coach, the power balance between “coach” and athlete at this level is more delicate and less differentiated. In a caring climate intervention, Claunch and Fry (2016) found that coaches realized that they were better able to empathize with, relate to, and communicate effectively with their athletes after the intervention. In creating an atmosphere of care, these coaches were able to better understand athletes’ perspectives, and were more understanding and respectful. In a sport setting in which power and direction is less authoritarian and more collaborative as club sports are, implementing a caring climate could be the solution to foster better communication while helping to mitigate conflict.

Limitations

This study is unique both because it includes a coaching intervention with college athletes, and the groundbreaking partnership that occurred between a university recreation program, a sport psychology research lab, and the Positive Coaching Alliance. Still, limitations of the study should be noted. First, the Year 1 dataset was obtained approximately four months after the athletes had concluded their season. This retrospective evaluation could have influenced their perceptions and responses, and could be argued to be less accurate than if the results had been obtained immediately after the end of their season. Because permission from the Institutional Review Board to survey athletes had not been received in time to survey the athletes immediately after their Year 1 season had ended, surveying athletes at the beginning of the new academic year (August) was the best method available to acquire baseline data to allow

comparison across two seasons. Secondly and because of the time lapse, the data from Year 1 did not include responses from those athletes who either graduated or chose to discontinue participation after Year 1. Each athlete included in the Year 1 dataset had participated on their team the previous year, and still chose to continue their participation the following year. Because of this, the results could be biased towards a more positive evaluation of Year 1 than was the case, as athletes who had a poor experience and did not choose to play in Year 2 did not have the opportunity to complete a survey. This makes the results, perhaps, even more marked, because if athletes who had a negative experience had been included, the contrast between athletes' responses between Year 1 and Year 2 may have been more pronounced.

Future Directions

With regard to future directions for this study, the results point the way for continued research. First, the sport club program benefitted from the coaching intervention, and it is easy to envision this kind of intervention taking place at many colleges and universities across the country, although further research will be important to replicate and substantiate the findings reported in this study. In addition, it is possible that additional athletes on university campuses might benefit as well. For example, the campus where this project took place has over 1800 students participating in the intramural sport program each year, and approximately 500 athletes participating in the Division I athletic program. These athletes could also likely benefit from their coaches and leaders gaining exposure to positive coaching concepts.

In addition to expanding the intervention within and across universities, another direction for future research would be to incorporate additional PCA training specifically targeting athletes, rather than coaches. PCA has a fully developed curriculum to train athletes to be TICs.

Interventions on college campuses that directly reached all athletes, could have tremendous magnitude in terms of fostering a positive sport culture.

Another important consideration for future research, is to examine additional outcome variables beyond those measured in this study. One important variable that should be included in future research is both sport and academic retention, as this is a major concern and challenge across colleges campuses (American College Testing Program, 2012). If sport club athletes have positive sport experiences, they will be more likely to continue their sport participation on campus, thereby continuing their academic enrollment. Another major concern on college campuses is student alcohol and substance abuse, and use of recreational drugs, as students report a marked increase in consumption during the formative adult years (Johnston, O'Malley, Bachman, & Schulenberg, 2013; National Institute on Alcohol Abuse and Alcoholism, 2007). If athletes participate in PCA workshops that emphasize being good teammates and maximizing the sport experience, they may buy into being TICs who make themselves and their teammates better. If so, it would follow that such interventions may serve to ameliorate or act as a buffer against the overuse or abuse of alcohol and/or drugs. Clearly there are many important avenues for future inquiry.

Lastly, it will be necessary to consider the impact of PCA interventions over time. It is unclear how long benefits from interventions may last, and the extent that continued reinforcement of PCA concepts and principles is needed is unknown. Clearly, longitudinal research is warranted in order to verify the benefits of utilizing PCA workshops with college students to maximize both the college sport culture and student's contribution to a positive youth sport culture as they continue into their adult years.

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Table 1*Comparison of Measurement Means in Year 1 & Year 2*

Measure	Year 1		Year 2	
	Mean (SD)	α	Mean (SD)	α
Caring Climate	4.31 (.76)	.96	4.65 (.52) **	.96
Task-Involving Climate	4.06 (.57)	.82	4.26 (.57) **	.84
Ego-Involving Climate	2.67 (.67)	.85	2.77 (.87)	.89
Task Orientation	4.17 (.59)	.86	4.37 (.53) **	.85
Ego Orientation	2.56 (.74)	.75	2.82 (1.01) *	.87
Enjoyment	4.43 (.64)	.88	4.59 (.46) *	.79
Commitment	4.35 (.60)	.82	4.37 (.61)	.84
Effort	4.49 (.64)	.88	4.49 (.59)	.73
Team Triple Impact	4.16 (.82)	.88	4.39 (.68) *	.89
Individual Triple Impact	4.14 (.67)	.79	4.27 (.67)	.82
Team Roots	4.40 (.63)	.80	4.59 (.52) *	.83
Individual Roots	4.61 (.47)	.75	4.72 (.42) *	.86
Team Potential	3.63 (1.23)	-	4.11 (.97)**	-
Individual Potential		-	4.10 (.97)	-

Asterisks indicate a significant difference when comparing the two mean scores; * $p < .05$; ** $p < .01$

Table 2*Correlations Among Variables*

Table 2: Correlations Among the Variables	Caring Climate		Task Climate		Ego Climate	
	Year 1	Year 2	Year 1	Year 2	Year 1	Year 2
1. Caring Climate						
2. Task-Involving Climate	.57**	.39**				
3. Ego-Involving Climate	-.36**	-.14*	-.30**	.05		
4. Task Orientation	.21*	.35**	.60**	.46**	-.12	-.04
5. Ego Orientation	-.04	.00	-.05	.11	.43**	.49**
6. Enjoyment	.60**	.45**	.53**	.53**	-.16	-.04
7. Commitment	.54**	.19**	.45**	.36**	-.30**	-.05
8. Effort	.14	.28**	.24**	.36**	-.03	.10
9. Team Triple Impact	.53**	.36**	.48**	.48**	-.18*	.05
10. Individual Triple Impact	.40**	.35**	.43**	.49**	-.16*	.15*
11. Team Roots	.37**	.47**	.46**	.37**	-.18*	-.06
12. Individual Roots	.32**	.50**	.39**	.35**	-.20*	-.06
13. Team Potential	.59**	.28**	.41**	.36**	-.34**	.12
14. Individual Potential		.26**		.35**		.12

* $p < .05$; ** $p < .01$

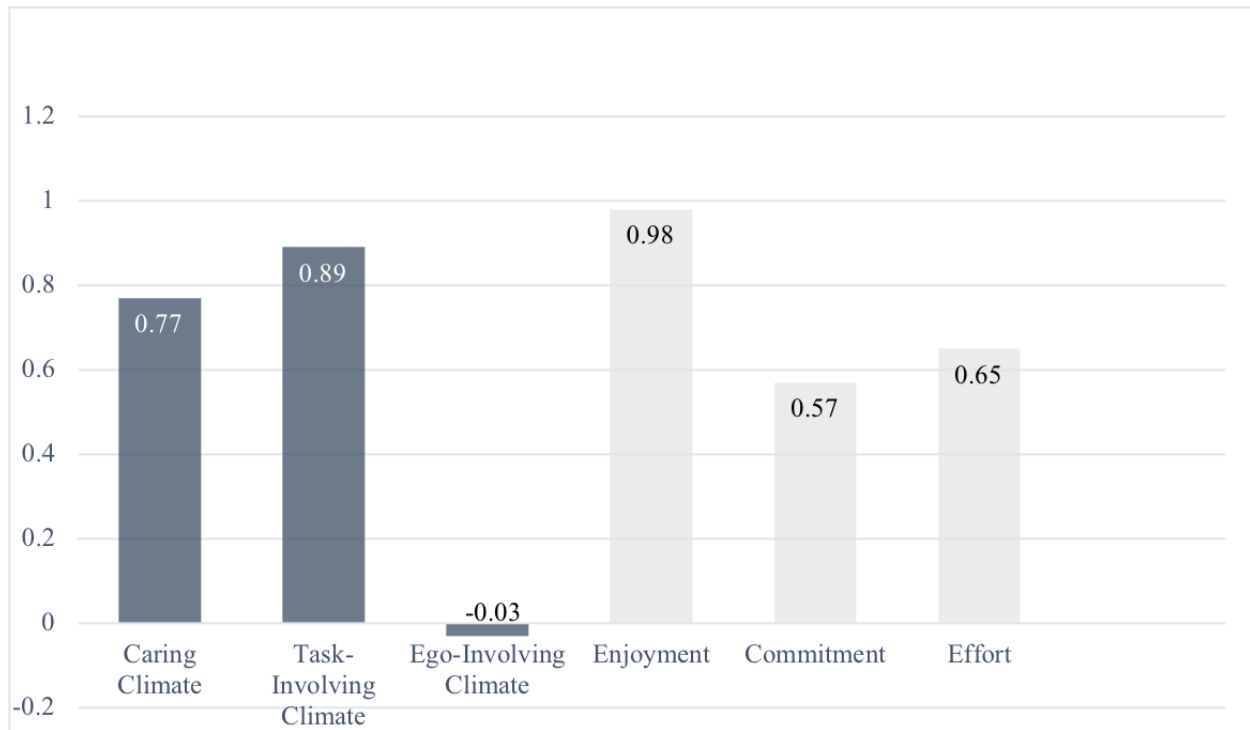


Figure 1. Canonical Correlation; CTE and Enjoyment, Commitment, and Effort

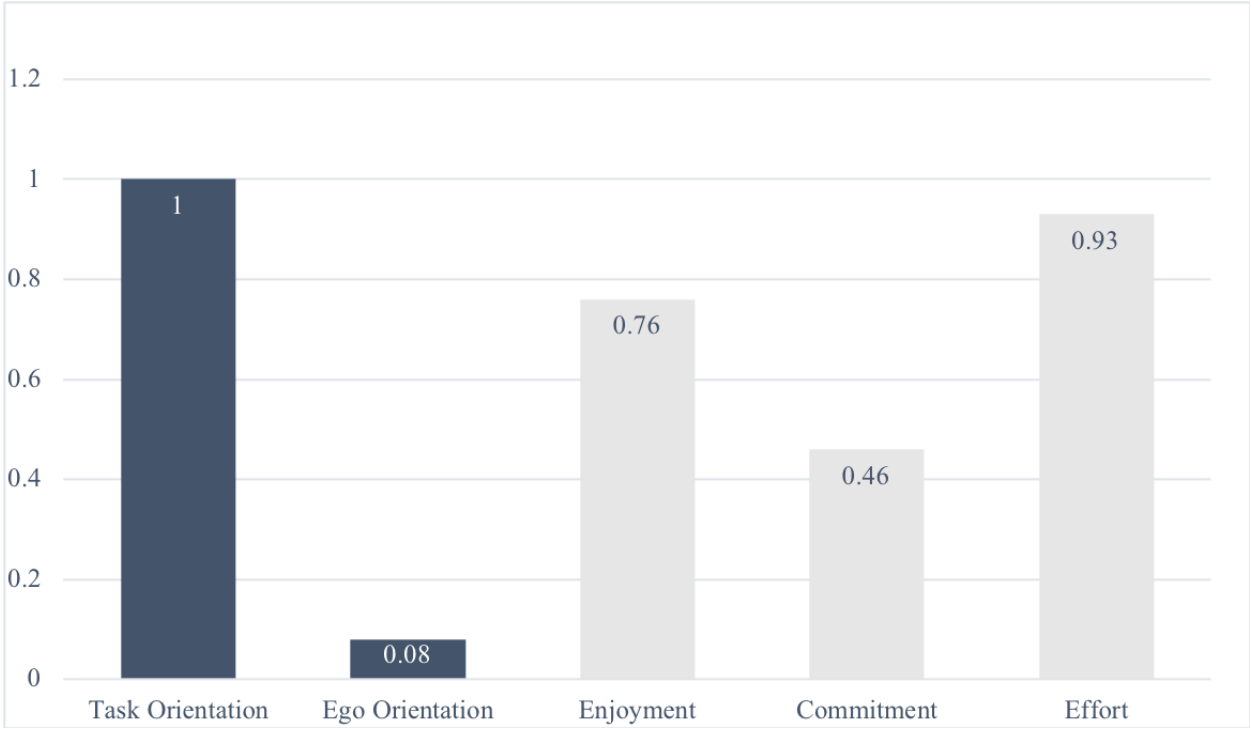


Figure 2. Canonical Correlation; Goal Orientation and Enjoyment, Commitment, and Effort

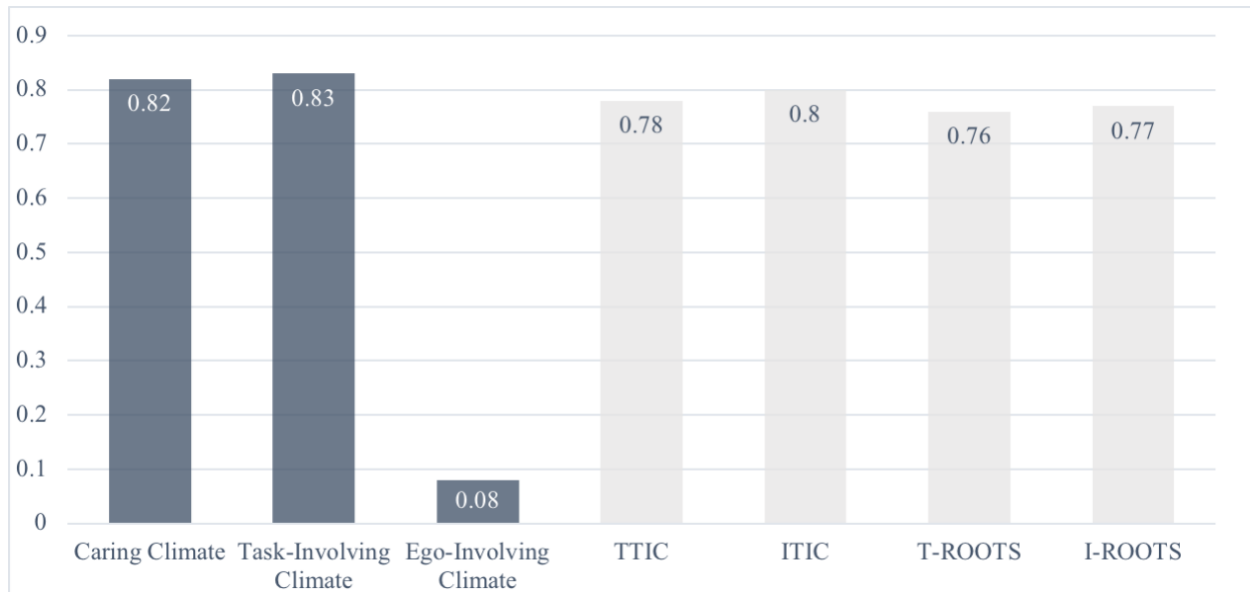


Figure 3. Canonical Correlation; CTE and PCA Variables

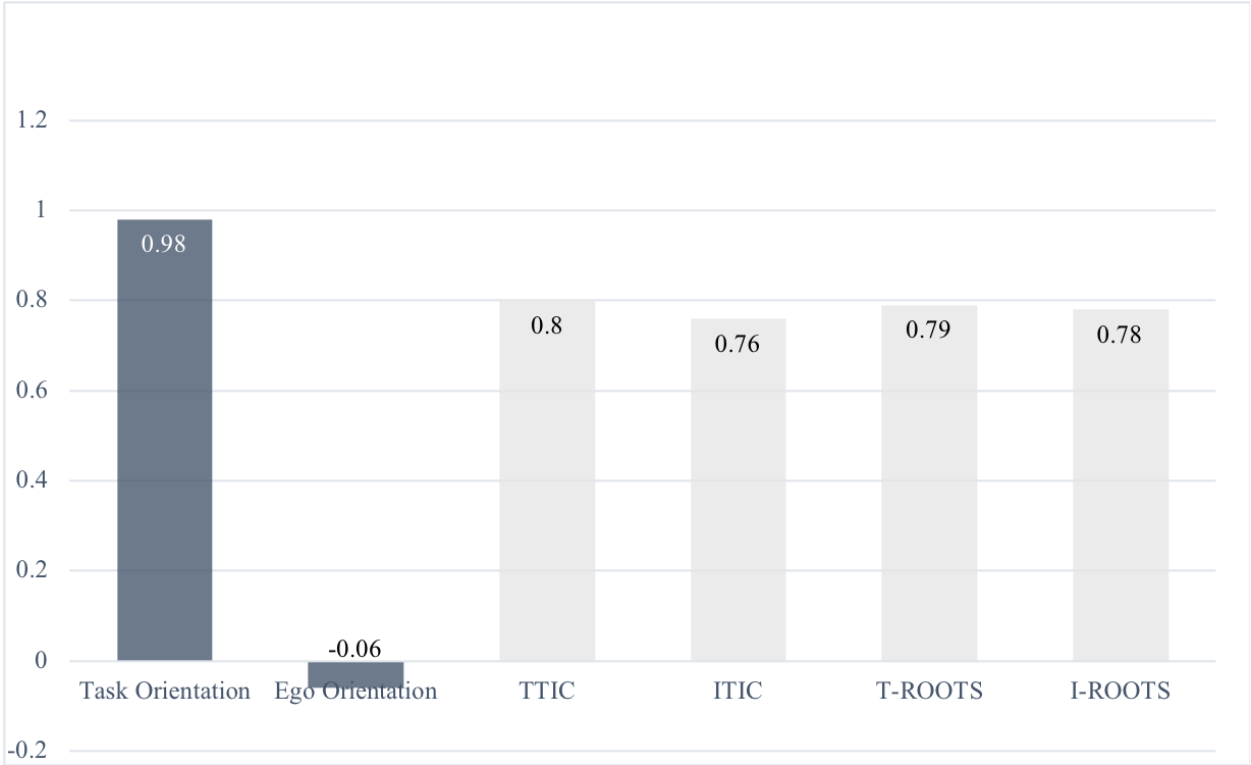


Figure 4. Canonical Correlation; Goal Orientation and PCA Variables

Extended Literature Review

This literature review is intended to synthesize information from the sport psychology literature pertaining to motivational climates, adaptive behavioral responses, and how the structure of the sporting environment is best established in order to maximize motivational response and allay non-ideal behaviors in a team setting. Specifically, the review examines sport club athletes' perceptions of the motivational climate, and its effect on commitment, enjoyment, and effort as members of their team.

In the United States, participation in youth sport can almost be considered a rite of passage, as 69% of girls and 75% of boys between grades 3 and 12 participate as a member of a sport team (Sabo & Veliz, 2008). It would follow that optimizing the climate of youth sport to maximize the availability of valuable lessons youth sport can provide while ensuring retention across the early lifespan should be of utmost importance to youth sport administrators, coaches, and parents.

Theoretical Development

A significant theory of achievement motivation is Nicholls' Achievement Goal Perspective Theory (AGPT). According to Nicholls, individuals are motivated to demonstrate ability, and avoid perceptions from others of incompetence in achievement settings. To understand the theory, it is helpful to first understand the chronological progression of his research interest as it culminates into theory through examination of his published works. Early in his research, Nicholls establishes an interest in examining the components of self-evaluated perceptions of success and failure as they relate to youth across development (Nicholls, 1975). Building on Weiner and colleagues' (1971) focus on the causal attributions of success and failure examined through the four factors of ability, effort, luck and task difficulty, Nicholls found, aside from sex

differences¹, that subjects felt better when they perceived their success due to high ability than they did when they perceived their success due to high effort. In sum, subjects felt most accomplished and successful when they perceived their ability was evenly matched with the demands of the task, and they felt a lower or secondary demand for effort in reference to ability.

From there, Nicholls (1976a) continued to examine the distinction between effort and ability, this time surveying university students. The results indicated that, contrary to then-current literature (1972) where evaluative reactions were the main driver to task outcomes, conceptions of ability played a larger role than conceptions of effort when determining affective responses to *future* situations. In other words, depending on the phrasing of the question, aimed at establishing the effect of success/failure on pride/shame, subjects would respond differently in their attribution of success or failure due to either effort or ability. While Weiner and Kukla (1970) phrased the question as it pertained to an upcoming opportunity to succeed or fail, Nicholls phrased the question to encompass outcomes of future opportunities. This phrasing, while not necessarily speaking to optimal or preferred behaviors, shifted subjects' perceptions of importance from valuing high effort to valuing high ability. In order to succeed at a task in the future, high ability is valued over high effort (Nicholls, 1976a).

In the same year, Nicholls further challenged the long-standing notion that measurements of anxiety, specifically the anxiety of children before taking a test, were accurate in measuring the intended target - test anxiety. Instead, Nicholls argued the test results were indications of the larger and more pressing issue of the individuals' self-concept of attainment/ability being established as they developed. The level of anxiety measured had little to do with the test itself, and more generally measured insecurities stemming from their growing ability to accurately

¹ which were concerning, indicating in brief that females were less confident in their ability – a possible attribution to the time period.

perceive their rank in class (Nicholls, 1976b). This concept of the level of cognitive development affecting motivational responses would become a central tenet in Nicholls achievement goal theory.

It was at this point in his academic career that more or less defined the future trajectory of achievement goal theory, and in many regards, the field of sport psychology. Pairing the previous studies together, Nicholls further explored the relationship between the cognitive developmental changes occurring as youth age and how causal explanations for success and failure would follow suit. In brief, Nicholls found that as children age, their relatively static level of ability crystalizes, and youth are able to relatively accurately measure their level of ability in relation to their peers (Nicholls, 1978). Taking into account that the same sample of youth were attributing success and failure to level of ability, a troubling finding emerged: continuing down the path of competitive education where normative comparison with peers was encouraged posed a psychological and developmental risk for those with anything but high perceived ability. While perceptions of ability are important, and there is validity in the concept that individuals can differ in ability, effort can often compensate for lack of ability. Despite this, youth often develop biases that prevent them from exerting effort, as the risk of exerting high effort and failing is not rewarded socially in the current environment.

Nicholls' (1979) then references what will later develop as an important and central piece of achievement goal theory literature, the influence of the motivational climate: "The importance of ability attributions as mediators of achievement behavior may be reduced by noncompetitive learning environments (Ames, Ames, & Felker, 1977). Such environments could focus attention (Duval & Hensley, 1976) on effort (Ames et al., 1977) or on problem-solving strategies (Diener & Dweck, 1978) rather than how performance and ability compares with that of others."

From here, Nicholls (1984) began to solidify his theory and its foundation. Acting from the base of his previous literature, Nicholls' aim was in understanding the various factors that contribute to individuals' behavior, and its interaction with their definition of self-referenced competence or perceived competence. Nicholls theorized that adolescents and adults can construe competence or ability in at least two different ways. These conceptions of ability are predictably varied based on the type or structure of the goals individuals pursue. In what has become a foundational piece of literature in his theory, Nicholls used this article to establish two methods of judgement when evaluating ability. The first, now termed "task orientation", maintains a focus on the individual's previous performances, and how the current performance measures to their past attempts. Through this lens, gains in mastery indicate competence. The other evaluative method, or "ego orientation", focuses specifically on normative comparison, or how their ability relates to others'. In using this frame of reference, it is important to achieve more success with equal effort than their peers, or to achieve equal success with less effort in comparison with others (Nicholls, 1984).

It was at this point that Nicholls' research culminated into theory. Taking his three previous areas of research, Nicholls posited that whether an individual was task- or ego-involving at a particular time was referenced by three criteria: the individuals level of cognitive development, their individual goal orientation levels, and their perception of the motivational climate in which they found themselves (Nicholls, 1989). When taken cumulatively, these three components have been shown to accurately predict behavioral responses in various settings.

Cognitive Development. An important component of Nicholls' theory is the individuals level of cognitive development. This component is what sets this theory of motivation apart from others, as it considers how children come to understand ability in normative terms (Fry and

Hogue, in press). From early childhood and up until adolescence, most children are unable to differentiate between luck, effort, and ability, and often regard themselves as fully able when having accomplished a task, unable to factor in luck and their exerted effort into the equation. Nicholls and similar research found that, by adolescence, most children acquire the ability to differentiate between these three concepts and recognize that the outcome performance reflects their current level of capacity, an aggregate of the three concepts (Walling & Duda, 1995). By exerting effort, their ability can be maximized. However, these two concepts, when taken together, can still be outperformed by others with higher current ability – some individuals may have performed to the best of their ability, but still “fall short” if comparing themselves to others with superior natural or acquired ability. Young children cannot yet grasp this distinction and view their successes as accomplished through high ability and effort, and their defeats or shortcomings by way of poor luck, unaware of the concept of normative standing.

Goal Orientation. Nicholls posits once a mature conception of ability is developed, individuals then develop their goal orientation, or their own personal definition of success. Nicholls established two goal orientations: task and ego. Individuals who adopt a high task orientation measure success based on personal effort, improvement, and mastery of a task over time, whereas those high in ego orientation measure success based on normative standing, or how their ability measures up to others. These orientations are independent (i.e., an individual can be high in one, low in another, high in both, low in both, etc.), yet are mutually exclusive, meaning that at any given time, an individual can either be operating from a task or ego state of involvement (Roberts, 2012). While these states of involvement are fluid, and have been shown to change suddenly (Gernigon, d'Arippe-Longueville, Delignières, & Ninot, 2004), Nicholls argues that maintaining a high task orientation is key in optimizing motivation over time

(Nicholls, 1979). In maintaining a focus on elements like effort and personal improvement when defining a successful venture, individuals will be more likely to persist and maintain motivation, as these elements are within their locus of control. In contrast, an ego-orientation, or defining success based on outperforming others, is problematic due to the external nature of the elements in which success is being evaluated. While individuals will range in their ability across the two orientations, the ability of the individual or the goal which they are pursuing are not of importance or interest with this theory, but rather their ability to sustain motivation across time - why they are engaging in the pursuit in the first place (Urdan & Maehr, 1995). In adopting an orientation that bases success on the amount of ability within an individual, it is only a matter of time before this level of ability is matched or bettered, jeopardizing motivation and performance.

It is interesting to reflect on the general public's perception of youth or "teens" during this transition into adolescence, and the host of behaviors and moods that accompany it – mood swings, self-doubt, irritability, defiance, etc. (Vernon, 2004). In viewing the transition through the lens of this theory, these behaviors and emotions are anything but irrational – these individuals are now mature enough to grapple with the realization that, while some of their abilities may surpass those of their peers, the opposite is also true. In this confusion, it would follow that at this point in human life, the behavior that is being modeled to adolescence in how they should measure their success (ego vs. task) is critically important.

Motivational Climate. The introduction of the concept of affective components (Ames & Archer, 1988; Nicholls, 1979) impacting goal directed behavior demarcated a significant advancement in the field of achievement motivation (Ames, 1992). In addition to the cognitions or thoughts that affected behavior related to motivation, Nicholls (1979) was one of the first to put forth the idea that affective components (emotions and feelings) were also central

components in influencing motivational behavior. Further, Nicholls brought attention to the impact that the environment, or motivational climate, had on these affective components, and, when taken in combination with cognitions, subsequently influenced achievement behavior.

According to AGPT, individuals can perceive two environments within an achievement setting, a task- or ego-involving climate. Within a task-involving climate (TIC), the emphasis is placed on four factors: effort, gradual improvement and eventual mastery of a skill, setting an environment in which everyone plays an important role, and considering mistakes as naturally occurring lessons in the learning process. These characteristics are what are most valued and recognized across the team, from coaches to fellow athletes. In contrast, individuals can also perceive a setting to be ego-involving (EIC). Within an EIC, the focus is on recognizing and rewarding superior ability, the valuing of higher normative standing and performance outcomes, the creation of rivalry amongst teammates, the acknowledgement of only a select few athletes as “stars”, and the punishment of mistakes. The important interaction here is between the individuals’ perception to which task and criteria are salient within the context, and the individuals’ perception of the behaviors that are necessary to achieve success or avoid failure (Roberts, Treasure, & Balague, 1998). This coupling of perceptions then affects the individuals’ behaviors, cognitions, and affective responses (Roberts, 2012). In sum, the perception of what is being stressed as important within a given environment, paired with the unique characteristics of individual, ultimately influence behavior - for better or worse.

Caring Climate. Within the last few decades, sport psychology research on Nicholls’ theory has branched out in an attempt to supplement the two primary tenets of the theory (task and ego) with additional aspects that can affect individuals’ perceptions of the climate. Initially, the concept of a caring climate (CC) was focused specifically on the classroom environment, and

how important a healthy and open relationship and style of communication is between instructor and student. It is not simply the responsibility of the instructor to make available and attempt to teach the information that needs to be learned, but to “step out of one’s personal frame of reference and into the other’s...” in order to make sure these lessons are being acquired by the student (Noddings, 1984, 2005, 2006). Based on this framework, Newton et al. (2007) utilized the notion of care and transferred it to the motivational climate of the physical education domain.

A critically important aspect of team/group cohesion is the athletes’ perception that they are respected, cared for, and valued as individuals within their team. Together, these perceptions are summated to form the caring climate, speaking to the degree to which individuals perceive that all team members feel comfortable, welcome, valued and are treated with mutual kindness and respect (Newton, et al., 2007). Their research aimed to push the concept of creating the optimal team climate further, theorizing that developing a TIC alone was not enough for a sustained change in behavior. While the concepts of a task-involving climate and a caring climate do share a great deal of similarities, they are distinct enough to be considered separate entities working in unison to impact the motivational climate. While creating a TIC within a team is crucially important regarding athlete well-being (physically and mentally), the self-referenced nature of the concept is limited in how it addresses group dynamics and teamwork. The creation and validation of the CC scale addresses this gap.

General Implications/Findings

In adopting this theory to explain differences in individuals’ levels of motivation, it is important to note the high degree of interconnectedness that both goal orientations and the perceptions of the motivational climate play in predicting cognitions and behavioral responses. While research has varied in establishing which takes precedence, with some arguing individual

goal orientations being especially salient (Seifriz, Duda, & Chi, 1992), and others arguing that the motivational climate is priority (Cury et al., 1996; Treasure, 2001), it is clear that the two act synchronously in influencing an individuals' goal involvement at any given point in time. While the level of cognitive development and goal orientations can be argued to be pre-established or static, the motivational climate is a variable that can continually be manipulated, for better or worse. This section aims at highlighting general research findings as they pertain to the two goal orientations and motivational climates within a sport setting.

Goal Orientation. Across multiple systematic reviews of AGPT literature, task orientation has been shown to be correlated with more positive outcomes, and ego orientation has been shown to correlate with more negative outcomes (Fry & Moore, in press; Harwood, Cumming, & Fletcher, 2004). Regarding team functioning and cohesion, high task orientation has been shown to be associated with higher perceived levels of satisfaction regarding their playing experience (Balaguer, Duda, & Crespo, 1999) and greater perceived competence in their sport (Stuntz & Weiss, 2009).

Specifically, Balaguer and colleagues (1999) found that, within a sample of competitive tennis players, the more a player identified as being task oriented, the more likely they were to indicate that they also were more satisfied with their coaches, were satisfied with their results across the year, and strongly indicated that they perceived their coach as an important part of the training process. Additionally, Stuntz and Weiss (2009) found that their sample of middle school athletes showed a strong correlation between task orientation and indications of perceived competence, enjoyment, and the presence of friendship with teammates. Ego orientation, alternatively, was not found to be significantly correlated to any of these outcome variables.

Motivational Climate. From the perspective of coach, manager, or those acting in a leadership capacity within a team setting, it would follow, then, that creating an environment that positively influenced the achievement behavior of the athletes towards their goal would be of utmost importance. Research has validated this concept, establishing that creating a TIC is ideal and leads to adaptive motivational responses, while providing evidence that an EIC can lead to more maladaptive motivational responses, especially for those athletes who perceive their ability to be lower (Pensgaard & Roberts, 2002; Roberts, Treasure, & Kavussanu, 1996; Smith, Balaguer, & Duda, 2006).

In a qualitative study measuring perceptions of the climate with elite Olympic athletes, Pensgaard and Roberts (2002) further solidified the argument that a TIC is optimal for success and team cohesion. Results indicated that the athletes valued their team and the relationships they had established within it, even though their events were individual. A healthy and supportive team climate was demarcated by high levels of support, both from coaches and teammates, and an environment in which athletes felt comfortable to be themselves and could be open about their concerns and struggles. The coach was regarded as an important facilitator and guide when establishing what climate would be prevalent during their season and was perceived as an important reference for technical skills across the season. However, once the coach had established the task-involving or mastery climate, the most important influencers within the climate were their teammates. Interestingly, this study seems to reinforce the importance of a CTIC, while removing some of the burden of responsibility from the coaches. While a coach is instrumental in initially establishing the direction in which the team goes in terms of the motivational climate, the most important facilitators for the maintenance of the climate are the individuals competing on the team. Their continued belief and support of one another pushed

each of them to improve by focusing on their own performance, while encouraging a competitive atmosphere to test their skill amongst one another.

Recently, the concept of introducing a CC has been examined as a practical and necessary addition within the elite, Division I athletic realm. Based largely on the work of Loehr (2012) examining the interconnected relationship between excelling in a performance setting and character strengths, sport psychology research has shifted to examine how a CC can provide a more impactful and lasting positive effect on a person than winning or losing a game can have (Fisher, 2016). In qualitative studies, immersing a researcher within a team setting over time, results have indicated that the perception of a CTIC have led to stronger team connection and better understanding of one another (Claunch & Fry, 2016). Specifically, Claunch and Fry (2016) found that the implementation of a CC collaboration between the coaching staff and the researchers had a massive positive impact on the culture of the program; athletes perceived their coaches to be more caring, understanding, and respectful, and the coach perceived higher effort from his athletes. Where the perception of being a caring coach is commonly perceived as ‘soft’ or ineffective, this research provides evidence that this innovative approach to coaching strategy may be the key in maximizing the athlete-coach relationship and the athletes’ performance/experience.

In summary, the perception of a CTIC has been shown to be associated with a host of positive behavioral responses, like turning “problem athletes” into positive contributors to the team (Heelis, Bloom, & Caron, 2017), being more respectful of their teammates, coaches, and opponents (Miller, Roberts, & Ommundsen, 2004), and athletes being generally more satisfied with their team (Fry & Newton, 2003). Alternatively, the perception of an EIC has not been shown to provide similar results. In fact, athletes who perceive a climate to be more ego-

involving have shown to be more prone to engage in antisocial behavior (Gano-Overway, et al., 2009), and have lower levels of moral functioning (Kavussanu & Spray, 2006). Specifically, Kavussanu & Spray (2006) found that athletes who found themselves within an environment which fostered ego-involvement were more likely to engage in cheating and aggressive behaviors, and were more likely to purposely injure their opponents to prevent them from scoring or succeeding. This is an alarming and troubling finding, highlighting the importance of coaches intentionally setting a caring task-involving environment for the safety of sport and the athletes.

Effort

Goal Orientation. As the differentiation between the concepts of luck, task difficulty, and effort from ability is a central variable in Nicholls' distinction of cognitive development (1984), and this ability of differentiation influences goal orientation, effort and its link to motivational responses and the motivational climate is an important topic to examine. Across studies, high effort, among other factors, is shown to be a key determinant in success for those who adopt a task-involved frame of reference (Biddle et al., 1996; Duda et al., 1992; Duda & White, 1992).

In one of the first studies examining goal orientation, sport experience, and their similarities with achievement behavior in the classroom, Duda & Nicholls (1992) established contrasting behavior between the two orientations when it came to achievement behavior in a sport setting. Specifically, those higher in task orientation were more likely than their ego-oriented peers to believe that effort and cooperation were important components of success, and were also more likely to indicate they were enjoying their experience more when compared with ego-oriented peers.

1003 In another study, examining elite club soccer athletes, Van Yperen and Duda (1999) found
1004 that task orientation, regardless of perceived level of ability, is predictive of higher levels of
1005 effort. They also found that coaches who saw athletes as putting forth higher levels of effort, also
1006 evaluated their competence as higher with sport specific skills such as dribbling, passing, and
1007 shooting, illustrating that task orientation is a factor in external perception of skill development
1008 and sport progression. Alternatively, van de Pol and Kavussanu (2011) found that those higher in
1009 ego orientation were less likely to exert effort in practice, only exerting effort in game situations.
1010 High task orientation, however, was associated with high effort in both practice and game
1011 situations, and held a stronger correlation in both settings. From this, the conclusion can be
1012 drawn that individuals high in task-orientation are more likely to use every opportunity made
1013 available to them to practice and strengthen their skill in giving high effort.

1014 **Motivational Climate.** Across studies, effort has been positively linked with a CTIC, and
1015 negatively linked with an EIC (Harwood et al., 2008; Ntoumanis & Biddle, 1999). Additionally,
1016 an individuals' personal conception of ability operates in a predictive capacity when examining
1017 effort. Task-orientation is positively associated with higher levels of effort, whereas ego-
1018 orientation remains unrelated to effort (Biddle et al., 2003; van de Pol et al., 2012). In a recent
1019 study with a sample of college students, Hogue et al. (2013) found a marked difference between
1020 the perceptions of a CTIC and an EIC as it relates to individuals' levels of effort. Specifically,
1021 those who perceived a more CTIC were more likely to indicate that they had put forth more
1022 effort than those who perceived a more EIC.

1023 In addition, Hogue and colleagues found that individuals perceptions of their motivational
1024 climate influenced their reported levels of effort. In a successful attempt to tie physiological and
1025 behavioral responses to the motivational climate, Hogue and colleagues measured the salivary

1026 cortisol levels of participants and found that individuals who were randomly assigned to the EIC
1027 had significantly higher levels of cortisol, a stress-response hormone, than those in the TIC.
1028 Further, they were also able to tie many positive psychological responses to a CTIC in
1029 comparison with an EIC. Specifically, participants in the CTIC reported higher levels of effort,
1030 enjoyment and self-confidence, whereas those in the EIC reported higher levels of stress, anxiety
1031 and shame. Interestingly, the activity which was being taught to the sample of college students
1032 was juggling, a menial task in comparison with greater hypothesized stressors such as academic
1033 life, meaningful social interactions, and invested sport participation. If these results manifested
1034 as statistically significant with a task as simple as juggling, it can only be hypothesized how
1035 much stronger the difference might be with a more personally relevant activity.

1036 Additionally, research has indicated that perceptions of a CTIC have led to beneficial
1037 psychological responses of effort and enjoyment (Boixadós et al., 2004; Seifriz, Duda, & Chi,
1038 1992). Conversely, perceptions of an EIC have been negatively correlated with the same
1039 variables of effort and enjoyment (Newton, Duda, & Yin, 2000). It would follow, then, that an
1040 effort to maximize the perceptions of a CTIC would in turn maximize participants' levels of
1041 effort and enjoyment.

1042 **Commitment**

1043 **Motivational Climate.** Another important correlation discovered between perceptions of the
1044 motivational climate and outcome variables is the level of individual commitment, both towards
1045 their team and their sport. Jõesaar and colleagues (2011) found a link between the perceptions of
1046 the motivational climate, enjoyment, and persistence within their engagement in sport.
1047 Specifically, athletes who perceived a CTIC were more likely to indicate that they were also

1048 intrinsically motivated to participate and were therefore more likely to persist or continue their
1049 sport.

1050 Barnett, Smoll, and Smith (1992) found that coaches who received training aimed at
1051 increasing their coaching effectiveness significantly impacted the experience of their athletes.
1052 Specifically, children were less likely to discontinue playing the sport the following season if
1053 their coach had received this training than those playing for coaches who did not receive the
1054 training. In short, the better these coaches were in clearly and effectively communicating with
1055 their athletes, the more likely those athletes were to continue playing the sport. Fry and Gano-
1056 Overway (2010) found that the perceptions of the climate within the team played a big role in
1057 youth sport participants levels of commitment, and the more an environment was perceived as
1058 CTIC, the more likely they were to remain committed to the team, as the characteristics within
1059 the CTIC (i.e., coach wanting to help them, is kind and caring towards them and their teammates,
1060 and their teammates reciprocating the same behavior) are indicators of an ideal and desired
1061 environment. In addition, it was hypothesized in the same study that the quality of athletes'
1062 relationships amongst their teammates, a finding that has previously shown to strengthen levels
1063 of commitment, was enriched and facilitated by the caring nature of their climate.

1064 **Enjoyment**

1065 **Goal Orientation.** Similar to other outcome variables discussed within this review,
1066 individuals high in task orientation and low in ego orientation are more likely to experience
1067 enjoyment within their sport than those who are higher in ego orientation and lower in task
1068 orientation (Goudas, Biddle, & Fox, 1994). Specifically, Goudas and colleagues found that
1069 students high in task-orientation and low in ego-orientation in a physical education course, when
1070 being tested for fitness, indicated that not only did they enjoy their physical education experience

and put forth more effort, but also felt this way regardless of their perceptions of success. In brief, effort and enjoyment were sustained, regardless of performance outcome, for those students high in task orientation and low in ego orientation, speaking to the potential for high levels of task orientation to act as a buffer against withdrawal within an increasingly performance driven society.

Theeboom and colleagues (Theeboom, De Knop, & Weiss, 1995) found similar results, finding that children who were placed in a mastery-oriented program during an organized sport program exhibited higher levels of effort in comparison with children placed in a performance-oriented program. Additionally, children who perceived a mastery-oriented program demonstrated significantly better motor skills than their peers in a performance-oriented program, providing further evidence that a mastery-oriented approach to instruction not only provides higher levels of enjoyment, but can also lead to better skill acquisition. Unfortunately, results have also shown the alternative to be true. Specifically, those high in ego orientation and low in task orientation have reported lower levels of enjoyment in a sport setting (Stephens, 1998).

Motivational Climate. Perceptions of a TIC have been linked to athletes' enjoyment of their sport experience. Seifriz, Duda, and Chi (1992) were the first to examine and conclude that perceptions of two distinct climates, a mastery and performance climate, were applicable within the sport setting, and were separately linked to differing psychological outcomes. Specifically, perceptions of a mastery (i.e., TIC) climate were shown to be positively correlated to higher levels of enjoyment - those who perceived a task-involving climate were more likely to enjoy the sport in which they were playing.

1093 Athletes' perceptions of a CTIC have consistently been found to be positively correlated with
1094 higher levels of enjoyment (Appleton & Duda, 2016; Fry & Gano-Overway, 2010; Iwasaki &
1095 Fry, 2013; MacDonald, Côté, Eys, & Deakin, 2011) and satisfaction in regard to their playing
1096 experience (Boixadós, Cruz, Torregrosa, & Valiente, 2004). Additionally, the perception of a
1097 CTIC has also been linked to more positive attitudes and engaging in more caring behavior
1098 towards their teammates and coaches (Fry & Gano-Overway, 2010). This finding is critically
1099 important, as it illustrates that the implementation of a CTIC not only produces favorable
1100 outcomes in regard to the impact on the individual (i.e., more enjoyment), but also sets the stage
1101 for athletes to reinforce aspects of the caring task-involving motivational climate by supporting
1102 the development of their peers through caring for them and maintaining good attitudes.

1103 While having fun may be considered a natural by-product of sport participation, previous
1104 studies have shown that the lack of enjoyment within sport is often indicated as the primary
1105 reason for discontinuing participation (Côté & Wall, 2007). Further, perceptions of an EIC were
1106 highly correlated with indications of burnout (Isoard-Gauthier, Guillet-Descas, & Duda, 2013)
1107 and dropout (Appleton & Duda, 2016). Therefore, orienting the motivational climate as caring
1108 task-involving rather than ego-involving should be of utmost importance, as enjoyment and
1109 commitment in sport have been thoroughly linked across studies.

1110 In concluding the review of research specific to achievement goal theory, and the
1111 implications goal orientation and the motivational climate can have on achievement behavior, it
1112 is important to clearly establish what is not being concluded. The propensity for individuals to
1113 filter their world view through the lens of whichever goal orientation combination they
1114 established in early adolescence is not a damning sentence. While these levels remain mostly
1115 static across the lifespan, the motivational climate can strongly influence which goal

1116 involvement strategy an individual adopts at any given time. Moreover, the motivational climate
1117 and the frame of reference being adopted and encouraged by teachers, coaches and peers during
1118 the development of these goal orientations suggest an important window of opportunity for
1119 shaping these orientations. It would logically follow, then, that the structure of the environment
1120 in which youth and adolescents find themselves in during this period of time (classroom and/or
1121 athletic) should be highly scrutinized and intentionally set to maximize and enhance the future of
1122 this population.

1123 **Positive Coaching Alliance**

1124 Positive Coaching Alliance (PCA) is an organization that was started in 1999 by Jim
1125 Thompson to address what he saw as a toxic environment within youth sport. From his
1126 background in teaching youth, he believed the key to a successful and fulfilling sport experience
1127 for youth was a caring, supportive relationship between coach and athlete, where winning was
1128 not emphasized as the most important goal, and development and improvement was the central
1129 focus. The original creed of PCA was “transform youth sports so sports can transform youth”,
1130 which spoke to the power youth sport involvement can have, and the magnitude in which it can
1131 change lives. Since then, it has been further refined to “Better Athletes, Better People” but the
1132 message remains the same: youth sport is a powerful tool that, when used intentionally, can
1133 produce resilient, empathetic, and hard-working individuals.

1134 PCA is effective in not only advocating for a more beneficial youth sport experience but is
1135 adept at translating sport psychology findings and literature in a way that can be understood by
1136 coaches, athletes, and parents across the country (Thompson, 2009, 2010, 2011). Their business
1137 model is in creating principles and coach/athlete titles which speak to this literature in
1138 developing youth athletes mentally and physically, and then presenting those concepts within

workshops specifically tailored to address their audience (i.e., coaches, athletes, parents). While the presentations vary in their delivery, much of the content in regard to the principles remains constant: a focus on developing athletes to become triple-impact competitors (TIC) (Thompson, 2011), where they make themselves, their teammates, and the game better via double-goal coaching, explained below. A common misconception of the positive coaching movement is that winning should no longer be a priority, yet this could not be further from the truth. There is a great deal of worth and fulfillment in winning through honest competition. In fact, the first goal of the double-goal coaching model is winning. The problem arises when winning becomes the sole focus, and by whatever means necessary. The second and most important goal of the double-goal coaching model is where PCA hopes to challenge the status quo – an intentional and primary focus on capitalizing on and teaching the valuable life lessons that sport can provide (Thomson, 2010). While winning is a central component to competition and should not be diminished, teaching valuable life lessons through sport involvement should always be the primary focus, and should never be sacrificed in order to win.

PCA also does a masterful job at translating sport psychology literature into concrete concepts and principles that coaches, athletes and parents can utilize to change their behavior in order to establish the best possible climate to create TIC's and double-goal coaches. These foundational principles of PCA - the ELM (effort, learning, mistakes are ok) Tree of Mastery, Filling Emotional Tanks, and Honoring the ROOTS (Rules, Opponents, Officials, Teammates, and Self) of the Game, all address and support the development of TIC's and double-goal coaches to some degree (Thompson, 2011). The ELM Tree of Mastery speaks to the litmus test that is being used when gauging a successful or unsuccessful athletic attempt. In brief, individuals can either focus on a scoreboard definition of success, where success is measured via

1162 outcome results, comparison with others, and the idea that mistakes are not acceptable, or the
1163 mastery definition of success, where success is measured via individual levels of effort, learning
1164 and development of skill, and the idea that mistakes are an important and necessary component
1165 of progressing in sport. This principle parallels and addresses the first component of developing
1166 TIC's ("making yourself better"), through focusing on the ideal mindset/approach to sport that
1167 fosters individual growth and improvement.

1168 The second component of developing TIC's, making your teammates better, is addressed
1169 through the principle of filling your teams collective and individual Emotional Tanks, or "E-
1170 Tanks." In simplified terms, the premise behind filling one another's' e-tanks is similar to that of
1171 Dr. John Gottmans' magic ratio (1992): the amount of positive feedback needs to far surpass the
1172 amount of negative feedback in order for communication to be effective and impactful. Similar
1173 to the gas tank of a car, PCA makes the comparison that those with full emotional tanks are more
1174 resilient, optimistic, and more coachable, as they feel safe and supported within their athletic
1175 environment.

1176 The last principle that PCA establishes is aimed at addressing sportspersonship and character,
1177 and how individuals should respect multiple aspects of the game in which they are participating.
1178 In developing an acronym, R.O.O.T.S, PCA provides an easy filter in which athletes can run
1179 their behavior through, by asking if their actions are respectful of the "Rules, Officials,
1180 Opponents, Teammates, and Self" within their sport. In brief, this principle aims to reinforce the
1181 positive character building aspects of sport by developing clearly established guidelines by
1182 which athletes can improve themselves, their teammates, and the game they are playing.

1183 Sport, in the right setting, can provide a litany of opportunities for individuals to grow and
1184 better themselves as people. Within a CTIC, athletes are further provided a safe and welcome

1185 environment in which they can capitalize on these opportunities and shape their identity. Within
1186 this environment, where emphasis is placed on effort, mastery of skill, and caring for those
1187 around you, athletes can focus on improving themselves and their teammates, and incorporate
1188 those characteristics of effort, enjoyment, and commitment into their character and their lives
1189 outside of sport.

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